

City of Tacoma NPDES 1999 Annual Report

Submitted April 7, 2000

This annual report is for the reporting period January through December 1999.

1. Status of implementing the components of the stormwater management program.

The City of Tacoma (City) received approval of its Stormwater Management Program (SWMP) from the Washington State Department of Ecology (Ecology) in July 1999. City staff presented information about the program to the City Council on April 20, 1999. Ecology staff sent out public notices and held a public workshop and hearing in the Tacoma City Council Chambers on April 29, 1999 as part of the public process. Comments that were received from the public during the hearing or in writing were incorporated into the SWMP before it was finalized.

This report describes the implementation of the Stormwater Management Program during 1999 and projects some of the program components into the future as per the schedule that was outlined in the SWMP.

The following reports, documents and activities were completed in 1999 as per the SWMP schedule:

- The Comprehensive Stormwater Management Program was approved by Ecology.
- The Snake Lake monitoring quality assurance/quality control (QA/QC) plan was submitted to Ecology.
- The physical inventory of gulch and associated stream systems was completed.
- The equivalency document for the City's Stormwater Management Manual, Volume I - Design was submitted to Ecology.
- The City's Stormwater Management Manual, Volume II - Stormwater Pollution Prevention Manual: A Guide to Best Management Practices for Industries, Businesses and Homeowners, was resubmitted to Ecology and was approved.
- Modifications were made to the existing drainage ordinance in 1999 and it was submitted to Ecology in January 2000.
- The Sampling and Analysis Plan for the Thea Foss Waterway monitoring program was submitted to Ecology. *Resubmitted 6-26-00*
- The Thea Foss and Wheeler-Osgood Waterways Source Control Report was submitted to Ecology in 1999 and the final addendum was submitted in February 2000.
- The Stormwater Source Control Feasibility Study was submitted to Ecology.
- The 1998 Annual Report was submitted to Ecology.
- The Fourth Year report was submitted to Ecology.

S7B1 Stormwater Management Program Planning Process

Stormwater Utility staff worked with managers and staff from the Sewer Operations and Maintenance, Streets and Grounds, and Building and Land Use Services Divisions of the Public Works Department to compile the information needed for this report. Participation by elected officials and the public took place in 1995, 1996 and in 1999. A City Council study session on the SWMP was held in April 1999. The City Council was also updated several times during 1999 on the Endangered Species Act (ESA) activities that City staff were involved in.

S7B2 Water Quality Problems, Needs and Priorities

Analysis of needs and priorities

The City's analysis of needs and priorities was included in the SWMP that Ecology approved. The SWMP includes a prioritized list of all of the City's unmet stormwater needs. The bulleted items on the first page of this report highlight many of the unmet needs that were addressed in 1999.

S7B3 Legal Authority

Adoption and enforcement of ordinance containing standards equivalent to the minimum requirements of Ecology's Stormwater Management Manual

The City's drainage ordinance, Chapter 12.08 of the City Code, is currently in effect. It was revised in December 1999 in order to be equivalent with the minimum requirements of Ecology's Stormwater Management Manual. The revisions were presented to the City Council for comment and were submitted to Ecology in January 2000. The revised ordinance will be finalized in early 2000.

Adoption and enforcement of ordinance prohibiting pollution discharges to the City's municipal stormwater system

The City's existing ordinance currently prohibits the discharge of pollutants to the City's stormwater system.

S7B4 Monitoring

Please refer to Section S12 Thea Foss Waterway Basin Program for information on monitoring activities in the Foss Basin.

The Snake Lake Sampling and Analysis Plan (SAP) was initially submitted to Ecology in July 1999 in accordance with the City of Tacoma's NPDES permit. Since this submittal, the City has revised and resubmitted the SAP after meetings with Ecology staff. Preliminary research and sampling was also completed. The SAP will be finalized and implemented in the year 2000.

The City of Tacoma wanted to adequately assess the condition of and the impacts to its gulches and the streams within them. The City will use this information to support the future development of water quality priorities and programs for the City, as well as to influence decisions concerning the Endangered Species Act. Four areas were assessed: the Western Slopes, North Tacoma, the Lower Puyallup and Northeast Tacoma (refer to Figure 1 in Appendix A, Urban Creek Assessment Quality Assurance Project Report). Physical habitat assessments were conducted to identify habitat degradation, the causes of the degradation, and restoration potential. The goals of this assessment were to:

- Identify and map all the creeks/gulches within Tacoma's city limits.
- To identify each creek's unique characteristics, such as: bank and bed problems (e.g., existing erosion), poor or exotic vegetative cover, extreme litter, presence of odors, illicit discharges, and improper uses of creek waters.

A report summarizing the gulch and stream assessment program has been completed and is included as Appendix A.

A local bay-watch telephone hotline allows the public to report water pollution problems.

The Bay-watch hotline (253-502-2190) was instituted in late 1998 and was operational throughout 1999. The City produced numerous advertisements to promote the hotline number and to raise public awareness of efforts to protect Commencement Bay from environmental threats. Specifically:

- A City staff person was interviewed for the cable TV program "City Scape" on January 21, 1999. The staff person talked about the shoreline patrols and presented the hotline as a phone number the public could call to report environmental threats to the health of the bay.
- The City produced a color poster to promote bay-friendly alternatives in everyday activities and to advertise the hotline phone number. Over 80 posters were distributed to 39 separate establishments.
- The City produced and distributed public service announcements for local TV stations advertising the hotline.
- The City also ran a quarter page ad in the News Tribune on November 10, 1999, prominently displaying the hotline number.

Despite this extensive public awareness campaign, the hotline has received limited use by the public to date.

City staff monitor the shorelines of the entire Commencement Bay area by a City-owned boat. This is done on a monthly basis. The monitoring is done at low tide to the extent practicable. Identified problems are addressed. Several water quality improvements resulting from this program are described later in this report (see Section 7, Identification of known water quality improvements or degradation).

The bay patrols were performed on the following dates: January 6, March 26, April 22, May 7, June 9, June 29, July 21, August 11, September 14, October 29, November 10, and December 15. Two patrols were performed in June to make up for February, when no patrol was performed due to extensive boat repairs required after an accident unrelated to these patrols. Areas of the shoreline were video taped during patrols, establishing a record of existing conditions. If incidents were detected during a patrol, an incident report form was filled out that documented the incident and the follow up action or referral.

The benefit of these patrols comes not only from correcting the specific problem, but they also raise the awareness of businesses and the general public about proper operations on and around the water. Copies of the video tapes and the incident report forms are available.

The environmental group, Citizens for a Healthy Bay, is sponsoring a Bay Keeper program. The person hired as the Bay Keeper has a boat and also patrols the City's many miles of shoreline. The City committed \$10,000 to their program and coordinates its efforts with those of this environmental group.

Stream Team volunteers do limited stream monitoring in several streams. They monitor for pH, temperature and other parameters.

Monitoring of surface/stormwater running off the cliffs above Marine View Drive began in mid 1999. The monitoring is taking place in the vicinity of the Natural Resource Damages Assessment (NRDA) trustee proposed restoration sites. The purpose of the monitoring is to determine if the water is of acceptable quality to be used in restoration projects. Monitoring is conducted twice per quarter at three locations and two full quarters of data had been collected by the end of 1999. Parameters tested for are organic, inorganic and conventional parameters. Data will be analyzed upon completion of the four quarters of monitoring to determine if the water is of acceptable quality to meet the needs of the restoration projects. There are no conclusions or recommendations at this time while the data is being collected.

The T-Street gulch was walked in October 1999. Areas of erosion and bank downcutting were noted and photos were taken. Riparian vegetation and water quality were assessed in areas where water and vegetation were available.

Developers are required to monitor wetlands in areas where wetlands could be impacted by development. They are required to submit reports. Approximately one-half of the City's Wetlands Specialist's time is spent on wetland monitoring activities. These activities include review of monitoring reports submitted as part of the permit approval process, tracking violations and monitoring shorelines.

There is an official weather station at the Central Wastewater Treatment Plant and 4 rain gauges located throughout the City. The rain gauge information is recorded and used as needed. The City contracts with a weather service and receives weather reports twice a day. This information provides an early warning of heavy rains and potential flooding. Maintenance crews are dispatched to proactively check and maintain trouble spots prior to anticipated heavy rains to ensure the proper operation of the system.

Storm sewer monitoring in commercial/industrial areas

Please refer to Section S12 Thea Foss Waterway Basin Program for additional information about monitoring in commercial and industrial areas.

S7B5 Fiscal Analysis

The operation and maintenance of the Storm Drainage Utility is funded from service charges. No revenue is derived from taxes from the City's general fund. Major capital improvements are funded from revenue bonds and pay-as-you-go financing. The service charges are reviewed annually to insure that they are adequate to pay operation and maintenance costs, debt service, capital improvements and taxes. All changes to the rates must be approved by the City Council.

STORM SEWER UTILITY

During the reporting period of January 1, 1999 through December 31, 1999, the stormwater utility spent \$14.6 million. The expenditure categories are as follows:

OPERATIONS:

Transmission

Personal Services	\$633,975.11
Supplies & Other Services and Charges	\$444,353.05
Miscellaneous Capital Outlay	<u>\$684,435.67</u>
Total	\$1,762,763.83

Pumping

Personal Services	\$29,907.08
Supplies & Other Services and Charges	\$215,918.57
Miscellaneous Capital Outlay	<u>\$6,652.52</u>
Total	\$252,478.17

Holding Basins

Personal Services	\$26,024.15
Supplies & Other Services and Charges	\$15,880.91
Miscellaneous Capital Outlay	<u>\$9,978.75</u>
Total	\$51,883.81

Engineering

Personal Services	\$297,127.36
Supplies & Other Services and Charges	\$144,864.89
Miscellaneous Capital Outlay	<u>\$0</u>
Total	\$441,992.25

Source Control

Personal Services	\$556,474.78
Supplies & Other Services and Charges	\$659,928.11
Miscellaneous Capital Outlay	<u>\$10,865.44</u>
Total	\$1,227,268.33

Laboratory	
Personal Services	\$270,854.71
Supplies & Other Services and Charges	\$52,387.75
Miscellaneous Capital Outlay	<u>\$323,242.46</u>
Total	\$1,227,268.33

MISCELLANEOUS:

General Services	
Personal Services	\$382,344.42
Supplies & Other Services and Charges	\$2,622,122.95
Miscellaneous Capital Outlay	\$15,255.24
Depreciation	=
Total	\$3,019,722.61

Debt Service	
Principal and Interest	\$2,441,744.61
Other	<u>\$49,631.00</u>
Total	\$2,491,375.61

Other Department Divisions not included above:

Miscellaneous
unknown at this time

Capital Projects	
T-Street Gulch	\$100,193.03
Coal Gasification Cleanup	\$76,047.37
Hosmer Basin	\$21,576.33
Foss Waterway Cleanup	\$1,709,007.56
NE Tacoma System	\$31,289.00
NRDA	\$494,000.29
Misc. Superfund	\$1,248,400.28
Miscellaneous	<u>\$1,014,098.03</u>
Total	\$4,694,611.89

Grand Total **\$14,588,581.42**

A description of the types of activities associated with the above expenditures is contained in Volume 3 of Tacoma's Stormwater Management Manual. Relating the budget amount in each of the above categories to the actual expenditures is very difficult at this time. Some activities are budgeted in one activity or organization but are actually spent and therefore charged to a different activity or organization. As a result, the actual expenditure in any one line item does not necessarily

relate to the budget number for that same category. Some capital expenditures may be budgeted in the operating budget but the expenditure is taken from the capital budget and vice versa.

The expected revenue from rates in 2000 is \$13.8 million. The anticipated expenditures for the year 2000 will likely be greater than in 1999. This is due to increasing activities in the Stormwater Utility. There will be increased emphasis on source control, public education, and on revising the stormwater manual as required by the Department of Ecology. In addition, there are numerous planning, design and construction activities funded by the Utility. Some of these are to comply with federal and/or state orders, consent decrees, mandates, etc. Finally, there will be added demands on staff and Utility resources as the impact of the listing of salmon under the Endangered Species Act is felt.

S7B6 Data Management

Development of land cover information maps and data

A GIS mapping system has been in use for the past several years. A source control database for industrial and commercial sites has been developed. It tracks business inspections and compliance status.

Mapping of wetlands was undertaken by the Buildings and Land Use Services Division in 1999. Unpaid college interns worked for more than 400 hours mapping the City's wetlands. The wetlands were categorized as filled wetlands, known wetlands and high probability of a wetland. No formal information was available on the last category. Eventually, this information will be available on the City's GIS system.

Description and location of major structural BMPs and other structural controls

The City developed a map that shows the location and type of all public and private water quality and water quantity facilities.

Mapping storm sewer outfalls and tributary conveyances

This type of mapping has been available for many years.

Water quality complaint investigations and database development and maintenance

A customer request database has been developed for residential requests. A separate business database is currently in use.

S7B7 Intergovernmental Coordination

The City has been involved in the Tri-County Endangered Species Act (ESA) efforts. This effort has involved the municipalities of Pierce, King and Snohomish Counties as well as many of the larger cities. Representatives from the Tribes, environmental groups, businesses and land developers are also included. City staff have served on many of the Tri-County ESA work groups including stormwater. The stormwater work group, representing the above mentioned groups, spent a lot of time in 1999 developing a draft proposal for a model stormwater management program that would protect fish. The goal of the work group is to have a program that is acceptable to the National Marine Fisheries agency. These efforts are continuing into 2000.

General coordination for monitoring, mapping, data management and modeling

The City coordinates a variety of activities with other municipalities and agencies. Issues related to the Flett drainage basin are coordinated with Pierce County, Lakewood and the Washington State Department of Transportation (WSDOT). Activities related to the ASARCO site are coordinated with the City of Ruston, Metro Parks Tacoma and the United States Environmental Protection Agency (EPA). Issues related to the clean up of the Foss Waterway are coordinated with WSDOT, EPA, the Army Corps of Engineers, the Washington State Department of Natural Resources, the Puyallup Tribe and Ecology. Activities related to the T-Street drainage basin are coordinated with Pierce County. Activities related to the Leach Creek drainage basin are coordinated with WSDOT and the cities of University Place and Fircrest. Activities in NE Tacoma, including the Joe's Creek drainage basin, are coordinated with Federal Way. Activities in the Hylebos Creek drainage basin are coordinated with the cities of Federal Way, Fife, Milton and Edgewood and with Pierce and King Counties.

General coordination for control of stormwater pollution from other jurisdictions

The City coordinates with other jurisdictions and agencies in a variety of ways. The City participates in the NPDES municipal permittees group, the Puyallup River Watershed Council, the Hylebos Watershed Action Team and the APWA Stormwater Managers' Meetings. Funds are provided to the Pierce County Conservation District to support the Stream Team which is sponsored by Tacoma, Pierce County and the cities of Puyallup, Fife and Sumner.

Development of coordinated SWMPs for waterbodies shared with other municipal permittees

The City coordinates with other municipalities to address stormwater concerns in shared waterbodies as described above.

S7B8a Runoff from new development and redevelopment

Development of an ordinance containing minimum technical requirements equivalent to Ecology's manual

The City developed a draft Stormwater Management Manual, Volume I - Design which was submitted to Ecology in 1995 for comments. An Equivalency Document for this manual was submitted to Ecology for review in 1999.

Stormwater plans for all new development and redevelopment projects are being reviewed and then the projects are inspected in the field. Many aspects of the draft Stormwater Design Manual, including the detention release rates are being implemented in this process. Stormwater facilities designed by staff and by consultants are done in accordance with the Design Manual. Erosion and sediment control plans are reviewed for compliance with the City's Excavation and Grading Ordinance.

Staff provide consultations and educational meetings with developers, planners and engineers involved in the land development process.

The Building and Land Use Services Division of the Public Works Department distributes NPDES Construction Notice of Intent forms to all developers who have projects that will include 5 acres or more of land clearing activities. These projects require a separate NPDES permit from Ecology.

A grading and erosion quality control team has been identified and staff is currently working on ways to improve the plan review process relating to temporary and permanent erosion control plans. The team is developing ways to educate the public on the needs of implementing adequate erosion and sediment control measures. The team is also researching new technologies and encouraging contractors to try these new technologies. As the education of the public increases, the City will continue to increase its efforts in enforcing the requirements stipulated in the Design Manual. New inspection and enforcement techniques will be developed in 2000.

An Erosion and Sediment Control class was developed in 1999 and will be offered to all applicable City staff in March 2000. The class will be a full day and will feature outside speakers who are active participants in the International Erosion and Sediment Control Association. The Stormwater Utility is sponsoring the class and it will be offered to all engineers, inspectors, planners and other staff involved in land development activities that could cause erosion and sediment problems.

S7B8b Existing Residential and Commercial Development Runoff

The City's current program includes business inspections, drainage complaints, interagency coordination, stormwater education, a major source control effort in the Foss Waterway drainage basin and enhanced activities in the Snake Lake drainage basin.

S7B8c Municipal Storm Sewer Operation and Maintenance

The Public Works Department has a Sewer Maintenance Division that is responsible for maintaining both the storm drainage and the sanitary sewer systems. The following tables indicate the level of maintenance efforts that were completed during 1999.

Municipal Storm Sewer Operation & Maintenance January 1999 to December, 1999

# CB's cleaned	5,322
# CB's checked	103
# Scuppers cleaned	127
# Culverts cleaned	301
Ditches cleaned	30,249 ft.
Detention Ponds cleaned (brushed)	31
Storm Main lines cleaned	27,454 ft.
Storm Main lines flushed	13,799 ft.
Storm Main lines backcut	7,550 ft.
Storm Manholes cleaned	150
Storm Manholes checked	608
# Feet In House Storm TV Inspection	20,831 ft.
# Feet Pay Storm TV Inspection	27,334 ft.

The Sewer Utility Maintenance Division is developing a comprehensive maintenance program that will extend the life of facilities and systems, and improve system reliability and performance. The program will be completed and implemented by the middle of year 2000. This program includes maintenance improvements and modifications, monitoring and evaluation of system performance,

and the development of specific performance standards for each maintenance activity. Some of the critical maintenance activities included in the maintenance program are, TV inspections, catch basin inspection and cleaning, ditch inspection and maintenance and the cleaning of scuppers and sumps.

Development of an ordinance defining private storm sewer system maintenance responsibilities was started in 1999. The draft ordinance has been submitted to Ecology for review and will be finalized in 2000.

Vactor waste is currently being decanted. The dry material is used at the landfill as daily cover. The liquid waste is being discharged to the sanitary sewer. Testing of both the dry and liquid components is continuing.

S7B8d City Road Operation and Maintenance

The Streets and Grounds Division of the Public Works Department is responsible for road operation and maintenance. This division sweeps the streets, does manual cleaning of stormwater features such as culverts and catch basin grates, has a fall leaf pick-up program, has a de-icing and snow removal program and responds to spills.

The City owns 4 street sweepers and 2 or 3 of them are in operation daily. During 1999, approximately 4,300 miles of street were swept and 4,500 cubic yards of material were collected.

S7B8e Water Quality Considerations in Flood Management Projects

The City did not construct any flood control projects in 1999.

S7B8f Runoff from Pesticide and Fertilizer Application

Educational efforts in this area were incorporated into the City's overall educational programs.

S7B8g Illicit Storm Sewer Discharge Elimination

The elimination of illegal discharges is one of the City's top stormwater priorities. The City currently has a ordinance that is used to enforce the elimination of illicit discharges. This ordinance was revised and submitted to Ecology for review in early 2000.

The City has two full time staff people devoted to the elimination of illicit discharges. When they do business inspections, they provide the business operators with technical assistance regarding the elimination of illicit discharges and they educate business operators about the proper BMPs to use. Volume II of the City's Stormwater Management Manual, "Stormwater Pollution Prevention Manual: A Guide to Best Management Practices for Industries, Businesses and Homeowners", is used in the industrial stormwater program for guidance in the storage and containment of chemicals.

The field staff observe or assist emergency response agencies with spill response activities. They provide the agencies with information on the City's stormwater system with the goal of keeping the spilled material out of the system. They continue to work with mobile washers and charity car wash operators to ensure that these types of washing activities are done correctly. They have also worked with the Tacoma Fire Department and with other City facilities in 1999, to ensure that vehicle wash water is disposed properly. The field staff also responds to general concerns regarding water quality problems.

The elimination of two illicit discharges to Puget Creek are described later in this report in Section 7, Identification of known water quality improvements or degradation.

The City has a fairly new household hazardous waste disposal and recycling center located at the landfill. This popular facility provides a place for the community to safely dispose of waste products that otherwise might end up in a storm drain.

S7B8h Industrial Stormwater Monitoring and Control

The City reviews all commercial plans for adequacy of the private storm sewer systems and their connection to the City's system. New construction is inspected to ensure compliance with City requirements.

The City's two stormwater Source Control staff inspect industrial sites. The industrial inspections are coordinated with Ecology staff as appropriate. This coordination includes the referral of problem sites to Ecology when the industry has an industrial NPDES permit.

The staff members have developed an inventory of sites and have the inventory on a computerized database.

S7B8i Stormwater Education

Employee education

The City encourages its stormwater staff to participate in continuing education. The staff has attended classes on BMPs, water quantity and water quality, erosion and sediment control and other topics directly related to stormwater. City staff also participates in the APWA Stormwater Managers' Meetings, the NPDES Municipal Permittees Work Group, the Puyallup River Watershed Council and the Hylebos Watershed Action Team. All of these provide opportunities for additional stormwater education.

Public education

The City has an extensive public educational program. The Stream Team, a multi-jurisdictional effort, sponsors storm drain stenciling. They also offer other programs such as wetland and stream bank cleanups and revegetation, workshops and tours. The Stream Team also has a water quality booth that is used at various community events including the Puyallup Fair and Maritime Fest. The Stream Team has a very large, active group of volunteers.

The Stream Team, the environmental group Citizens for a Healthy Bay, the Stormwater Utility and the Pizza and Pipes restaurant sponsored a storm drain stenciling day in Tacoma in July 1999. Staff from the Utility and Citizens for a Healthy Bay were interviewed on a twenty minute segment of the City Line cable TV show regarding the stenciling program. Many volunteers, including several families turned out to help and approximately 200 storm drains were stenciled.

The Stormwater Utility is continuing to work with Metro Parks to support a variety of educational efforts that will focus on stormwater and marine life. These activities will take place at the Point Defiance Zoo and Aquarium.

The charity car wash program also received radio and newspaper coverage in 1999. The Utility cosponsored with Sears, a day long, joint "Clean Bay Car Wash" as a fund raiser for the Gilda Club. This club raises funds for cancer victims and their families and was formed in memory of Gilda Radner. This large event was held at the Sears parking lot at the Tacoma Mall. Pollution prevention information was handed out and was discussed with the customers of the car wash.

The Stormwater Utility also distributed flyers and posters focused on things that the community could do to protect water quality such as car washing, auto maintenance, pet waste disposal and use of yard chemicals.

The Building and Land Use Services Division also developed six public service announcements for their "Built Right" program which is designed to educate the public about proper permitting procedures.

The Stormwater Utility, Sewer Utility, Solid Waste Utility and Tacoma Power and Tacoma Water are continuing an ongoing effort with the Tacoma School District to provide environmental education in the schools. The Utilities have paid the salary of a Curriculum Facilitator for Environmental Education for the past several years. The Facilitator has developed environmental materials for the schools. The Facilitator also coordinated environmental workshops for teachers in 1999. One workshop was on watersheds and water quality, one workshop was on sewage disposal and wetlands, and one was on recycling and solid waste.

The Stormwater, Solid Waste and Sewer Utilities, along with staff from the City's Community Relations Department, joined together in applying for a Public Involvement and Education Grant from the Puget Sound Water Quality Action Team in 1999. The \$42,000 grant was awarded and will provide funding for an "Environmobile". This will be a staffed, mobile educational unit that will go out to the schools to provide environmental education to the school children of Tacoma in grades K-6. This program is being developed and will start implementation in 2000.

The Stormwater Utility again helped to sponsor the Nature Bowl program offered at the Nature Center at Snake Lake by various agencies. This event provides an opportunity for educational interaction with both teachers and school kids with respect to water quality concerns.

Staff also participated in a variety of other educational activities such as meeting with high school students, assisting with the water quality booth at the Puyallup Fair, and doing water quality presentations.

S12 Thea Foss Waterway Basin Program

The City's NPDES municipal stormwater permit, issued in 1995, contained a special provision requiring the development of a stormwater program specific to the Foss Waterway. Much of the work to establish the program was done in 1995 and early 1996.

Source control activities conducted within the Thea Foss Waterway Basin over the past several years are documented in the Source Control Report, Thea Foss and Wheeler-Osgood Waterways Drainage Basins, referred to as Appendix Q (Round 3 Data Evaluation and Pre-Design Evaluation Report). In February 1999, the City published Chapter 3 of Appendix Q, which summarizes source control

activities conducted in Basin #237A. In June 1999, the City published an addendum to Chapter 1 of Appendix Q which summarizes a source control investigation conducted in Basin #245.

On September 30, 1999, the Final Round 3 Data Evaluation and Pre-Design Evaluation Report, which included Chapter 7 of Appendix Q, a summary of source control activities conducted in the "other" drainage basins to Thea Foss Waterway (Basins #207, #214, #218, #222, #223, #225, #243, and #248) was published. Also included in Appendix Q of the Final Round 3 submittal is Section III, Thea Foss Source Control Summary. Section III is a summary of information contained in Appendix Q, including completed stormwater actions and investigations, stormwater source control actions to be completed prior to sediment remediation, and source control actions exceeding the scope of current Public Works resources.

As explained in Section III, the City was in the process of generating reports on several investigations and source control actions which had just been completed. Therefore, a final addendum to Appendix Q was prepared, which includes updates on outstanding source control issues, and two reports related to source control investigations. This addendum was made available for comment by the PRP group. After addressing all comments received, the City submitted the final addendum to Appendix Q in February 2000.

Subsequent source control activities conducted in the Thea Foss Waterway Basin will be summarized in quarterly progress reports submitted to Ecology and EPA. In February 2000, the first such quarterly report was submitted covering the period from October 1, 1999 to December 31, 1999.

In 1999, source control efforts within the Thea Foss Waterway Sub-watershed focused on outstanding issues and concerns. A detailed list of these issues and concerns, shown in Appendix B, has been compiled by the Stormwater Source Control Workgroup, consisting of representatives from the City of Tacoma, the Department of Ecology (Ecology), and the Environmental Protection Agency (EPA) and most recently, Citizens for a Healthy Bay. The Workgroup meets approximately every 6 weeks to cooperatively discuss and provide status updates on each action item. Subsequently, the information contained in Appendix B is frequently revised and updated as needed.

Inspections

In 1999, 15 full inspections and 6 drive-by inspections were conducted at businesses within the Thea Foss sub-watershed. Most of the inspections were performed to evaluate compliance status at businesses where concerns were previously noted. Enforcement actions taken in 1999 include one Warning Letter and two Notice of Violations (NOV). Each NOV also included a monetary penalty.

Other investigations that took place in the Thea Foss sub-watershed are described in Section 7 - Identification of know water quality improvements or degradation.

Education

The City continues to provide residents and businesses with educational handouts and pamphlets pertaining to BMPs. Residential letters and pamphlets are routinely distributed in neighborhoods following complaint investigations. During inspections, businesses are provided both general and specific BMPs targeting applicable activities.

Commercial and industrial monitoring

In 1999, as part of the City's ongoing investigation to identify potential sources of contaminants of concern (COCs), specifically bis(2-ethylhexyl)phthalate (BEP), a number of sediment samples were obtained from catch basins at various businesses. Depending on the sample results, the City may require corrective actions be taken, such as implementation of specific BMPs, in order to eliminate or minimize the discharge of contaminants from private drainage systems. In addition, the City has compiled a map of sample locations and results which serves as a tool for identifying possible areas of concern within the watershed.

Other monitoring activities

In the Fall of 1999, in-line sediment traps were deployed as required in the Thea Foss Waterway Sampling and Analysis Plan (SAP). These locations included Outfall 230 (3 locations), Outfall 235, Outfall 237A (2 locations), Outfall 237B, Outfall 243, and a background (residential) location upstream in Basin #237A.

In addition, the City, in cooperation with EPA and Ecology, identified additional upstream sample locations for the purpose of source tracing for BEP. Five sediment traps were deployed on major trunk lines upstream in Basin #237A. Four sediment traps were deployed upstream in Basin #230. And two sediment traps were deployed upstream in Basin #235. Sediment traps (2) were also deployed just outside the MPS Terminal which drains both to Outfall 245 and Outfall 248. In January 2000, the samples were retrieved and sediment traps were re-deployed at all 22 stations. A final analysis report from the City Lab is currently in progress.

Spills

In April and May of 1999, a number of complaints were received regarding turbid water discharging at Outfall 237A. Inspectors had been unsuccessful in tracing the source upstream. Finally, in June 1999, the source was traced to a City-contracted construction project where de-watering was a frequent occurrence. Since this incident, the City has taken steps to address concerns related to construction de-watering and erosion control at construction sites.

On August 6, 1999, white paint discharging at Outfall #230 was traced to contractors working at St. Joseph Hospital, 1708 S. J Street. Several buckets of rinse water accidentally spilled on the roof and into a roof drain.

On September 3, 1999, a small spill of citrus-based cleaner was reported at Puget Sound InLine, 2322 S. Holgate Street.

On November 30, 1999, a spill of canola oil was reported at Nalley's Fine Foods, 3303 S. Lawrence Street. The spill occurred in a portion of the plant which drains to the South Tacoma Field.

2. Notification of any recent or proposed annexations or incorporations

No areas were annexed during the reporting period.

3. Differences between planned and actual expenses

Relating the planned expenditures in each of the above categories to the actual expenditures is still very difficult at this time. The City's budget and fiscal tracking systems are not structured to fit the NPDES needs. They were developed to comply with the State Auditor requirements and conform to the Government Accounting Procedures (GAP). Some activities are budgeted in one activity or organization but are actually spent and therefore charged to a different activity or organization. As a result, the actual expenditure in any one line item does not necessarily relate to the budget number for that same category. And finally, some capital expenditures may be budgeted in the operating budget but the expenditure is taken from the capital budget and vice versa. We are continuing to work with the budget and fiscal offices to see if modifications can be made to eliminate these anomalies. The City is investigating a new computerized tracking system for the entire City financial operations as well as other applications. This will include hiring a project manager and an outside consultant in 2000 for the purpose of selecting a vendor to supply the necessary hardware and software.

4. Revisions, if necessary, to the remaining years of the fiscal analysis reported in the approved stormwater management program

Revisions to the fiscal analysis section are not necessary.

5. For the fourth year report, a summary and analysis of the cumulative monitoring data collected throughout the term of the permit

The fourth year report was submitted in September 1999.

6. A summary describing compliance activities, including the nature and number of official enforcement actions, inspections and types of public education activities

The Building and Land Use Division of Public Works is responsible for the permitting of a wide variety of land use activities throughout the City. They issue residential and commercial building permits, clearing and grading permits, and permits for shorelines, wetlands and other critical areas. They also process all land use permit applications including short plats, formal plats and other activities. During 1999, the following enforcement actions were taken:

- Grading and filling permits - 41
- Erosion control inspections - 57
- BMP failure inspections - 5
- Tracking sediment off-site - 6
- Grading inspections - 95
- Shoreline investigations - 2

During 1999, seven calls were received from the public regarding water quantity and flooding concerns. Approximately 125 water quality complaint calls were received and were addressed. These calls related to a variety of concerns such as vehicle storage, working on vehicles, painting,

spills relating to vehicular accidents, business practices related to improper storage of chemicals, and vehicle and equipment washing.

Enforcement actions were taken in the Thea Foss Basin. One warning letter and two notices of violation were issued. The notices of violation had monetary penalties associated with them.

7. Identification of known water quality improvements or degradation

In 1999, the City completed an investigation in Basin #245 which identified a likely source of petroleum-based material which had been infiltrating into the storm drainage system and discharging to Thea Foss Waterway. This matter has been forwarded to Ecology with a recommendation for further action to confirm the City's findings and remove the source. In September 1999, the City eliminated this source of contamination to the waterway by repairing damaged sections of the storm system where material had been infiltrating.

In 1999, the City completed an investigation in Basin #235 which identified the source of consistent petroleum odors reported in the storm drainage system near the Washington State Historical Museum. Activities conducted during the investigation confirmed that groundwater contaminated with gasoline is infiltrating into the storm drainage system and discharging to Thea Foss Waterway. The City, Ecology, and Tacoma-Pierce County Health Department are currently working cooperatively to: 1) eliminate the pathway to the storm drains, 2) identify the source(s) of contamination, and 3) evaluate the need for remedial action. This work will eventually result in an improvement to water quality.

In March 1999, the City conducted an investigation to identify the source of fecal contamination detected in the storm drainage system within the Puget Creek drainage basin. Several samples were obtained from major trunk lines upstream in the basin to identify the area of concern. Additional samples were obtained to further isolate the source. Finally, smoke testing was performed which identified a household side sewer which was inadvertently connected to the storm drain. Soon afterwards, City crews re-routed the side sewer to the sanitary sewer. However, the major source of contamination was later identified when additional smoke testing was performed in the area. City crews found a sanitary sewer cross-connection to the storm drainage system. A plug which had been previously installed in a cross-connection pipe at a manhole had failed. City crews immediately corrected the problem.

The work of the City's Bay Patrol, described in the Monitoring Section, S7B4 resulted in the following improvements to water quality.

- A boat owner was found sanding his boat while moored at a marina, allowing the debris to fall into the water. He was immediately stopped and informed that activity could only take place at a dry dock. The marina owner was also informed and asked to watch out for this sort of activity.
- Muddy discharge from a stormwater pipe lead to the discovery of a water main break. Staff from Tacoma Water responded quickly to stop the flow in the main and to make repairs.

- A diesel fuel sheen was tracked to an area near several companies' operations. The companies were contacted and they searched for the source. No source was found, but a follow up inspection found the sheen was gone.
- A small diesel fuel sheen was tracked to a boat tied up at a marina. It had an internal diesel fuel leak which was being intermittently discharged into the water by an automatic bilge pump. The owner was contacted and he turned off the bilge pump and pumped the diesel fuel out of the boat for proper disposal.

A new Home Depot store is being constructed in the western part of the City. A wetland is located on the site. The wetland was degraded due to adjacent commercial and industrial activities. As part of the permitting process for the Home Depot, the wetland was cleaned up and the buffer was replanted. Now only clean roof water is discharged into the wetland and the Home Depot is responsible for monitoring the wetland on a regular basis.

8. Status of watershed-wide coordination and activities which the permittee has undertaken individually or jointly as part of the Special Condition S7B7.

Please refer back to S7B7 for information on watershed-wide coordination and activities.

Appendix A

Urban Creek Assessment Quality Assurance Project Report March 2000

Please see the attached report.

Appendix B

Source Control Issues and Concerns within the Thea Foss Waterway Sub-Watershed

Tacoma Stormwater Worksheet (Flint & Naccarato rev. 2/2000)

Note 1: "CoT" generally means City stormwater utility, other City divisions are otherwise specified. **Note 2:** Naccarato temporary re-assignment postponed, staffing plan to accomplish tasks within specified time frames is not certain. **Note 3:** Although WDOE's Mercuri & Coleman are specifically named to complete tasks, other staff may be assigned. **Note 4:** At "six-weekly" meetings CoT, WDOE & EPA convene to cooperatively address outstanding issues. **Note 5:** Reference to a "3rd or 4th Rnd Sed Trap Report" is based on the 1st & 2nd round sed trap efforts led by Ecology. 3rd Rnd of sed trap sampling refers to the effort of Sept'99 to Feb'00 (as shown below). 4th Rnd sed traps were deployed Jan'00. Now that the City will take the lead in sediment trap sampling, results analogous to Ecology's presentation will be presented in the reports described in the City's stormwater monitoring plan.

Drain	What	When	Who/Whom	Report Out	"Deliverable"
230	PAHs - installed traps above & below courthouses & schools in 1998 sediment trap study (HClD tube oil identified, but not quantified). UST at schools were removed. UST at county courthouse (Yakima and S 11th) closed in place, sw cmx plugged ... oily seep still observed. Check w/TPCHD re monitored seeps from tanks. Note: Union Stn and museum ghw sources discharge to SD-235 (only north end of parking lot at Federal court house discharges to 230. 12/99: TV'd line on S 15th to Court A and Dock St line. Found broken pipe along RR tracks (at FD-3B), but no I/I problems.	1 May '99 (Ecol info/CoT) 1 June '99 (CoT/TPCHD) 12/99 (TV) 1/00 (decide addnl controls)	WDOE/Mercuri w/Horton CoT/Naccarato w/TPCHD	Qbly Rept	CoT/WDOE: quarterly rpt
230	Coil - issue is vehicle washing - corrections made. No further action. See Appendix Q (DxD report)	1 June '99	CoT/Naccarato	Qbly Rept	*****
230	Greyhound Bldg (dba Budget Rental) - wash system conn. to sanitary as per Appendix Q (DxD report). No further action.	1 June '99	CoT/Naccarato	Qbly Rept	*****
230	Manholes & sidelines need further cleanup pending results of TV work & sed traps.	Feb-00	Utility/Owners	Qbly Rept	*****
230	Auto detailing & tire-related operations possible sources ... 7 sed traps installed for source id sampling (8/99): FD3 (15th St. main line), FD3A (S15th betw. Pacific & A Streets), FD3B (Hood St & Pacific Ave, S15th & Market, S13th & Market, S11th & Market, Broadway betw S14th & S15th.	1/99 (traps in) (data back) 200 (results to plan from)	CoT/Naccarato	Qbly Rept 1/15/00	CoT: addendum DxD (sed trap status)
230	BEP: Colonial Fruit - CoT checked for oilfall (condensate?) as part of Bay Keeper survey for oilfalls on 4/22 - no apparent oilfall. Cross-checked water consumption - determined discharge to waterway is non-contact cooling water. Ecology will check NPDES permit status. CoT located 2" PVC discharge pipe under bldg - discharges directly to waterway.	12/99 (WDOE for permit)	CoT/Naccarato WDOE/Mercuri	9/30 Rnd. 3 (final)	CoT: addendum DxD WDOE: memo
235	PAHs high in 4/98 sed traps (LPAH = 16,000 ug/kg, HPAH = 75,000 ug/kg), but lower in 2/99 traps (LPAH = 3,600 ug/kg, HPAH = 14,000 ug/kg) - from CB at end of pipe. 2/99 sed trap results: E 21st/Dock (d/s Union Sta: 3,480 ug/kg LPAH, 13,360 ug/kg HPAH; E 21st/Jefferson (u/s Union Sta): 1,360 ug/kg LPAH, 7,960 ug/kg HPAH.	This line only presents data, it is not an action line.			
235	BEP: 4/98 sed trap: oilfall at E. 21st/Dock St = 96,000 ug/kg. 2/99 sed trap: E 21st/Dock (d/s Union Sta): 20,000 ug/kg. E21st/Jefferson (u/s Union Sta): 42,000 ug/kg. No obvious sources on this line. 3 sed traps installed for source id sampling (8/99): S21st & S. Jefferson, S. Market & S. Jefferson, and outfall	This line only presents data, it is not an action line.			
235	Source tracing: 3 sed traps installed for source id sampling (8/99): S 21st & S. Jefferson (u/s of Union Sta to west), S. Market & S. Jefferson (u/s Union Sta to N), and S 21st & D St (outfall). Two lines to park have been TV'd. WSDOT-owned line running north of S 21st has had debris removed and now needs to be TV'd by City. Other TV need to find I/I around museum/courthouse. Investigation of gas stations by Ecology also needed re: g/w contamination.	Feb 2000: Trap data in ??? Trap data report ??? TV lines ??? Gas stations	CoT/Naccarato; Ecology/Warren	DxD addendum Quarterly? NPDES report	
235	WDOOT drain S of S 21st Slagsholder: System owned by WSDOT runs from S to N, drains part of I-705 and connects to City SD-235 system S of museum. City TV'd line and observed black tarry substance seeping into manhole and other parts of line. WSDOT maps show former gasholder at this manhole location. Manhole buried, no sample collected. WSDOT to raise manhole to grade (Coleman coord. w/ WSDOT), determine extent of I/I, collect sample; lines may need lighting.	??? raise MH ??? Collect sample	Ecology/Coleman coord w/ WDOOT CoT/Naccarato collect sample		
235	Gas I/I on WSDOT line N of S 21st: Short line from S 21st joins main E-W line on S 21st at Cl A. Main line installed by WSDOT for I-705 project is asphalt-lined CMP. Infiltration at manhole 447 contains gas (benzene at 240 ug/L, WTPH-G: 0.7 mg/L). PAH not detected at 1 ug/L. Ecology investigating historic gas stations as possible sources. Coord. with WSDOT to eliminate I/I (Ecology?). Continue to investigate I/I problems.	??? investigate sources ??? TV line Stop I/I	Ecology/Coleman/Warren CoT		
235	Gas I/I at museum CB: Gas in infiltration into cb behind museum (benzene: 29 ug/L, WTPH-G: 0.6 mg/L). PAH not detected at 1 ug/L. Line connects to WSDOT-owned line from I-705 N of S 21st/ 3 USTs removed 8/92. 10 monitoring wells installed-gas cont along S end of site extending N along E side of property. GW remediation planned, but postponed pending investigation of offsite sources. Ecology coord. w/ TPCHD to resume investigation/remediation. Coordinate w/museum to eliminate I/I (Ecology?). Continue to investigate I/I (City).	??? investigate sources ??? TV line Stop I/I	Ecology/Coleman/Warren CoT, TPCHD		
243	BNRR: At 4/19/99 low tide heard cascading water behind bank armor, possibly the old outfall from the roundhouse. Roundhouse oil/water separator is by Berg Scaffolding CoT & WDOE found no connection to oil/w separator. Oil/water separator filled w/ sand/concor (closed). At low tide CoT sampled & found low level TCE (near detection limits), sample was salt water.	1 May '99 (sample) 1 May/Jun '99 (data)	CoT/Naccarato WDOE/Coleman, Mercuri	09/30 Rnd. 3 (final)	CoT: addendum DxD
243	BEP: BNRR yard: incidental releases from tank in area leased by Truck Rail Handling - need collected results of sampling for all media (soil, surf H2O, groundwater) and the single catch basin sample for BEP (in '99). Need to characterize what gets into drains - Sed trap installed at outfall 8/99. TPCHD site hazard assessment data forwarded to WDOE. CoT got 1 sample from cb sediments in area where transloading occurs. BEP was low (79-2,400 ug/kg in sediment from d/s CB and 890-1,920 ug/kg (wet weight) in ground product material). Other phthalate found in product: Di-n: 3,650-6,600 ug/kg, but only 198 ug/kg in CB sediment. See note below at Truck Rail Handling item on 245 - property leased from BNRR drains to 243	1 June '99 (inspect site & sample cb) Sept/Oct (site hzd results)	CoT/Naccarato TPCHD/Nelson	09/30 Rnd. 3 (final)	CoT: addendum DxD WDOE: memo
243	BEP: Picks Cove: 5/97 CB sample at south end of properly draining to 243: 42,000 ug/kg BEP. Ecology to follow-up on whether other cb was cleaned or not. Picks washes boats in area behind building - does not drain to new sand filtration system to be built. Have Picks stop washing boats at this location.	77 (sand filtration working) 77 (WDOE on cleaned cb)	WDOE/Mercuri		WDOE: memo

"sw" - stormwater
"cb" - catch basins
"p.i." - as required

"u/s" - upstream
"d/s" - downstream

NOTE:

This is a working document used exclusively by the City of Tacoma, Ecology, and EPA, solely for the purposes of listing and tracking action items related to the Thea Foss Waterway Source Control Program. The use of symbols (e.g., question marks) identify issues to be further discussed by the Workgroup.

Note 1: "CoT" generally means City stormwater utility. Note 2: Naccarato temporary re-assignment postponed, staffing plan to accomplish tasks within specified time frames is not certain. Note 3: Although WDOE's Mercuri & Coleman are specifically named to complete tasks, other staff may be assigned. Note 4: "Six-weekly" meetings CoT, WDOE & EPA convene to cooperatively address outstanding issues. Note 5: Reference to a "3rd or 4th Rnd Sed Trap Report" is based on the 1st & 2nd round sed trap efforts led by Ecology. 3rd Rnd of sed trap sampling refers to the effort of Sept'99 to Feb'00 (as shown below). 4th Rnd sed traps were deployed Jan'00. Now that the City will take the lead in sediment trap sampling, results analogous to Ecology's presentation will be presented in the reports described in the City's stormwater monitoring plan.

Drain	What	When	Who/Whom	Report Out	"Deliverable"
245	PAH: Only material - concern is M to stormline. TPCHD site haz assess (10/97): 5 g/w and soil samples collected in ROW D Site 19th: TPH-D and heavy oil > MTCA level A. 4/98 samples at sump: TPH-heavy oil = 72,000 mg/kg, individual PAH ND, but detect limit = 11,000 ug/kg. BEP not tested. CoT will line existing drain along 19th (east of D SI). Sump at 245 recontaminating - 18" solids' accumulation since cleaned 6 months ago. H2S added problem in this area (pipe damage). Tida gate at outfall not feasible, so installed on initial pipe to sump; tidal influence remains. Tightlining compoloid 10/99 will address M & recon of line, sumps, etc. Need to clean sump and reliefs. Problems with how to collect representative sample from 15-foot deep sump. Old fuel pipeline located, small section full of oil-saturated solids was removed. Concerns remain about contaminated soil on outside of line coming thru bedding material line - will sample & clean out sump when solids have accumulated again.	11/99 (lighted) 11/99 (sample, clean sump) Sept 99 (sed traps in) 1/00 (data in) 2/00 (results to plan from)	CoT/Naccarato WDOE/Coleman	09/30 Rd. 3 (final) & Qtrly Rept	CoT: addendum DxD WDOE: memo
245	BEP at outfall: Data from DxD report ... sump samples 8,000 - 8,700 ug/kg BEP (1987-1996), 30,000 (4/98), cleaned in 10/98 and 5/07/0 (3/99). Need to keep track of future sampling results	This line only presents data, it is not an action line.			
245	Picks Cove: Picks installed closed loop boatwash 9/93. Ecology sampled cb sediments 11/95: Cu, Pb, Zn (2,300-71,000 mg/kg), TBT (275-1,263 mg/kg), phthalates not analyzed. 4/96: Picks cleaned CBs (not the S CB), but not clear if pipes cleaned as well. 5/97: City sampled cb sediments: LPAH (2,680-54,820 ug/kg), HPAH (5,740-58,550 ug/kg), BEP (15,000-170,000 ug/kg), Dimethyl phth (3,400-63,000 ug/kg), pentachlorophth (750-43,000 ug/kg), pentachlorophth (480-34,000 ug/kg). 10/97: TPCHD sampled soil and g/w at 4 locations: only 1 site contained elevated metals and CPAH in soil, some PAH detected in g/w. 2 other sites PAH and phthalates detected in g/w. 4/98: Ecology installed sed trap in D SI cb: TBT (43 mg/kg), LPAH (6,064 ug/kg), HPAH (14,600 ug/kg), BEP (17,200 ug/kg). 1/99: Picks cleaned CBs and lines. 8/99: Picks sampled main sump: Cu (5,700 mg/kg), TBT (52U), LPAH (8,970 ug/kg), HPAH (24,260 ug/kg), BEP (71,800 ug/kg), dimethyl phth (20,700 ug/kg), pentachlorophth (NA). 1/00: Picks agrees to regrade site and install sand filtration system to treat stormwater.	7/77 Storm treatment in place	WDOE/Mercuri		
245	BEP: MPS/Truck Rail - update report/memo re cleaning, containment improvements. No similarities apparent from cb to cb from 4/98 data, so hard to separate possible effects from MPS, Truck Rail and Arrow. Check possibility for M, new purchaser is having assessment done and may address M. New owner also planning to test to sw cross-connections. WDOE sent stormwater permit writer to check SOPs on property leased from BVR - no update yet. CBs cleaned late March '99 - need results updated. Requested chronology of sampling & cleaning events to date. They are no longer transloading BEP. 8/99 sed traps installed at E 18th/MPS on 248 and between E 18th/E 19th on 245. CoT plans to clean public stormwater lines d/s of MPS after MPS pressure washes its system. 12/99 sale finalized. New owner to clean CBs. Ecology to request dye test for illicit connections.	2/00: (resample & results) 2/00: (sed trap data)	WDOE/Mercuri (update) CoT/Naccarato	Qtrly Rept	WDOE: memo addendum DxD CoT
254	BEP: Premier Plastics - Revisited for housekeeping practices and area around rails. 5/96 CB samples contained 9,400 - 27,000 ug/kg BEP. CoT recommended more frequent sweeping plus CB inserts. Need follow-up inspection for cleaning & resampling. 12/99: PP has relocated. CoT found drain in basement-low priority.	12/99 (inspection & resample)	CoT/WDOE	09/30 Rd. 3 (final) & Qtrly Rept	CoT: addendum DxD
237A	Sed trap results: 1997: 5,600 - 7,800 ug/kg BEP; 5,600 - 6,500 ug/kg LPAH; 39,000 - 46,000 ug/kg HPAH; 1998: 20,000 ug/kg BEP; 7,000 ug/kg LPAH; 34,000 ug/kg HPAH; 8 sed traps installed 8/99 for source tracing: FD2 (manhole on East B betw S23rd & S24th), FD2A (S23rd & East B), FD5 (Cedar & S18th), S. 35th & Hood St., S. Pine & Hood St., S. Hosmer & Center St., S. Wilkeson & Center St., South Tacoma Way & J St.	This line only presents data, it is not an action line.			
237A	BEP: Tacoma Plastics: in old Tacoma Power bldg. Did inspection, but no sampling. All work inside, injection molding for toys & parts, no storage, no transloading. Everything indoors for current operations — need to revisit cellar & old conduits for historical sources. M. Coleman may have additional related info from previous work in area.	1/00 (talk to Coleman)	CoT/Naccarato	Qtrly Rept	CoT: addendum P (update status)
237A	Phthalates: KellTech & Maaco catch basins: 7/96 CB samples (2,400 - 5,100 ug/kg BEP). Cleaned all cbs in 12/97. BEP in traps was lower in 2nd rnd. Based on dye tests, KellTech line wraps around Maaco - before cleanout saw no difference in phthalates between public and private catch basins. Buyl benzyl phthalate (1,100 - 1,400 ug/kg) higher here than elsewhere on 237. Need to establish cleaning schedule under private maintenance ordinance & followup to ensure it is kept. Cuttings/shavings escape thru curtain to outside - followup with request to insert filter. Al Maaco washwater goes to grass (infiltrate to gw) - but may overflow to storm in winter. Need to followup with TPCHD. Did visit & operator was sweeping.	7/77 (check seasonal BMPs) 7/77 (set schedule w/owner for cleaning?) 1/00: CoT site visit (housekeeping)	CoT/Naccarato TPCHD/new contact?	Qtrly Rept	CoT: addendum to DxD (update status)
237A	Phthalates: Plasti-Pac: Need to figure out sw plumbing - during past remodel outside cb wound up beneath a loading dock. One other (?) was not functioning when site was dye tested - option to empty & fill if not connected to anything else. Update: Bldg vacant, moved to 2322 S. Holgate (formerly Max Burton Enterprises). Site has been flagged in CoT systems for "no occupation" pending cleaning and replumbing or closing of connection to stormwater. [[Al new location, Plasti-Pac had reported a spill-5-10 gal Delaminon (orange-extract) degreaser. Did not reach SD]]. Still in 237A basin. CoT to flag site for new occupant.	action pending reoccupation of site 1/00: CoT verify site still vacant	CoT/Naccarato	Qtrly Rept	CoT: addendum to DxD

"sw" - stormwater

"cb" - catch basins

"p.r.n." - as required

"uds" - up/learn

"l/w" - down/out

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Drain	What	When	Who/Whom	Report Out	"Deliverable"
237A	Phthalates: Ultra-Poly: Even tho no source is evident on-site, phthalates are continuing problem (1,400 - 340,000 ug/kg BEP in 5/96; CBs cleaned 12/96, 1997-1998 CB samples: 5,500 - 76,000 ug/kg BEP). BNR next door has evidence of high phthalates -- migration? U-P is a confirmed source & would appear to need more than repeated catch basin cleaning (e.g., pressure wash lines, reclean cbs) and re-analysis. Current storage of finished product is all outside - Could not analyze raw power-- would not dissolve in solvent. Current operator cognizant of BMP's & is practicing. FS Harmon Mfg Co owns and maintains bus. office on site - possible historical contamination. Next action - have lines & cb cleaned - resample. CoT inspect to check BMP's.	1/00 reinspect	CoT/Naccarato	Qtrly Repl	CoT: addendum to DxD
237A	NW Elch next door to Ultra Poly-- u/s on drain: All incoming/outgoing flows are accounted for - now part of pre-treatment program.	no further action	CoT/Naccarato		CoT: addendum to DxD
237A	PAHs: DA-1: draft FS for interim action is targeted for 7/31/99. Traps installed 10/98 - 2/99. MH 080 u/s of WDOT (16,000 ug/kg BEP, 4,710 ug/kg LPAH, 13,580 ug/kg HPAH) MH 081 d/s of WDOT (7,700 ug/kg BEP, 3,880 ug/kg LPAH, 4,240 ug/kg HPAH). Removing portions of old line, adding seepage collars to prevent movement along outside of old lines, slight re-grade of area & paving. Check status (Coleman).	?? (public notice for MTCA action) ?? (action complete)	WDOE/Coleman		
237A	PAHs: A&B Rent-a-Car: Nearest cb is away from site so it is unlikely that washwater is reaching sw line. Deal used parts. Generally low performance housekeeping & BMPs. Increase presence & inspections w/sampling to monitor/increase compliance (possible cxn to business licensing?) Updates pending for DxD.	Summer '99	CoT/Naccarato	9/30 Rd. 3 (final)	CoT: addendum to DxD
237A	PAHs: Active Gear: New tenant at former site of Ben's Truck Parts. Found as result of complaint. Need to check cxn on washpad (to sewer or sw?) and add to CoT list as location for routine cb cleaning. Active Gear has been very responsive to CoT on source control - cbs were full when AG came on site (AG cleaned). Re-visit shows they now store truck gear boxes outside - contact storm water/dolls concern.	12/99 (revisit)	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Repl	CoT: addendum to DxD (update status)
237A	PAHs: Brake Shop: Tenant at Ben's Truck Parts site. Generally a mess behind doors. Increase presence & inspections	Summer '99	CoT/Naccarato		CoT: addendum to DxD
237A	Atlas Foundry: WDOE lead on compliance thru NPDES. Semi-VOA not tested under permit. WDOE has requested MSDS as check for presence of phthalates in products used. CoT requests BEP monitoring as NPDES requirement. 12/99?: Atlas to install onsite infiltration system. CoT sampled 4 onsite and 2 offsite Cb's.	?? (CoT letter to WDOE) ?? (review existing data) ?? (sample if needed) ?? (respond to CoT request)	WDOE/Mercuri & HPOES permit section	08/04/1999	Full '99, CoT letter to WDOE
237A	Auto Tech Collision Center: No CB on-site. Cars rinsed with water only after being painted. Explained in Appendix Q (DxD report).	Complete	CoT/Tollison, Naccarato	DxD	-----
237A	Auto Body ReBuild PPG: No wash pad exists. CB located near wash area. As noted in Appendix Q (DxD Report), newly painted vehicles now washed with water only... Candidate for sampling.	Sept '99 (traps in) 1/99 (data back) 2/00 (results to plan from)	CoT/Naccarato	DxD	-----
237A	Baby Diaper Service: CBs were cleaned when drains were stenciled. CBs sampled by CoT. Updates pending for DxD.	Summer '99	CoT/Naccarato	9/30 Rd. 3 (final)	CoT: addendum to DxD
237A	CJ Auto: 9/97 CBs plumbed to oil-water sep at Walls Radiator. Now out of business. Wall's Radiator (owner & neighboring tenant) took over vacant space. No further action required.	Summer '99	CoT/Naccarato	9/30 Rd. 3 (final)	CoT: addendum to DxD
237A	Jack-in-the-Box: High staff turnover does not generally ensure SOPs & BMP's will be applied. Fined for continuing to wash parking lot with degreasers. 38K ppb of BEP in CB, possibly from soaps. Add to plans for more presence/visibility. Data coming in next quarterly report.	Summer '99	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Repl	CoT: addendum to DxD (update status)
237A	Auto detailing & tire-related operations possible sources - Sed traps installed at 8 key locations 8/99 for source tracing (see first entry under 237A). Need to update info for DxD.	Sept '99 (traps in) 1/99 (data back) 2/00 (results to plan from)	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Repl	CoT: addendum to DxD (update status)
237A	BEP: Evergreen Tire @ 98,000 ug/kg (BEP) in cb (HPAH > 75,000 ug/kg) not cleaned. BEP & PAHs in '98 samples were even higher. As noted in Appendix Q (DxD rep.), pad connected to sanitary sewer installed as required. Added maintenance schedule. Firestone - needs added to maintenance schedule.	Summer '99	CoT/Naccarato	DxD	-----
237A	T&T Tire & Automotive Center: HPAH (115,300 ug/kg), LPAH (21,100 ug/kg) and BEP (87,000 ug/kg) in catch basins. Verify cleaning & resample. Increased enforcement required. Wash pad to be installed. Verify wash water from floor cleaning no longer goes to stormdrain	?? (clean, resample) ?? (wash pad) 1/00: (verify cxn)	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Repl	CoT: addendum to DxD (update status)
237A	BEP: JR Rockling Furniture: A small-scale operation uses soap for vehicle washing - gravel area is hard to sample. No further action as per Appendix Q (DxD Report)	Summer '99	CoT/Naccarato	DxD	-----
237A	Lincoln Plaza Shopping Center: Legal matters pending regarding trash compactor discharge. Updates pending for DxD.	1/00 (strategy for discharged drainage from trash bins)	CoT/Naccarato/Tollison	09/30 Rd. 3 (final) & Qtrly Repl	CoT: addendum to DxD (update status)

"sw" - stormwater
"cb" - catch basins
"p.c.n." - as required

"u/s" - upstream
"d/s" - downstream

Tacoma Stormwater Worksheet (Flint & Naccarato rev. 2/2000)

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Chain	What	When	Who/Whom	Report Out	"Deliverable"
237A	PAHs: Yellow Cab (flint Rainer Radiator): no sw conveyance - runs thru gutters to grass & greenery - doesn't reach the road. Need for further action currently being assessed. Updates pending for DxD.	no further action	CoT/Naccarato/Flint	09/30 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	Nailey: Washpad has overflowed to storm. Soap is used - likely source of BEP. Sewer Operations followed-up for pre-treatment compliance. No semi-VOA analyzed for permit. Pickle brine runs to cb, especially during periods of high production. Nailey does have schedule for replacing old wood tanks; anticipated completion in 2007. Meanwhile, berms need repair. Need a scheme for sampling the site from sw perspective - then plan to establish control/compliance. Re SOPs and BMPs need management buy-in to ensure practices are sound. Need to update DxD. Also, see Appendix Q (DxD report). Mercuri to check permit status. CoT tested pickle brine for semi-VOA.	77 (WDOE/EPA strategy for sw sampling) 77 (repair berms) 77 (site sw control schedule) 2/00: brine test results	WDOE/Mercuri CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Rept	WDOE: Memo or other documentation for CoT CoT: DxD addendum (update status)
237A	Olympic Brake Supply: Vehicle washing discontinued following 3/97 inspection. CB were cleaned - need to follow-up on BMP implementation. Candidate for CB sampling	Sept '99 (traps in) 1/99 (data back) 2/00 (results to plan from)	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	Osborn McCann Cadillac: 12/96 CB samples: 3,000 ug/kg LPAH, 12,630 ug/kg HPAH, 7,400 ug/kg BEP. Wash pad confirmed connected to sanitary sewer. Anti-freeze relocated away from pad drain. Follow-up needed concerning outside washing of cars.	12/99 (followup)	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	Oxygen Sales & Service: Cylinder hydro-testing water has been re-routed to sanitary. No further action required	Complete	CoT/Naccarato	DxD
237A	Peartless Laundry: CB cleaned 5/97 & were high BEP (30K ppm) beforehand. Resample cb and get operator on schedule for cb maintenance	12/99 (cb resample) 77 (schedule for cb maint.)	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	Pugel Sound Energy: Confirmed that oil/water separator at washfuel area is plumbed to sanitary. Verify whether or not cbs have all been cleaned & when - resample. COI reported that CBs have been cleaned (11/99). Pressure washing for fleet vehicles should be done only where flow goes to oil/w separator. Follow-up inspection confirmed flow. Need to sample cleaned cb.	12/99 (cb resample)	CoT/Naccarato	Qtrly Rept
237A	Sam's Auto Repair: Follow up to confirm waste oil & anti-freeze are no longer problems (See Appendix Q)	Complete	CoT/Naccarato	DxD
237A	Star Ice & Fuel: There is cb adjacent to above-ground waste oil tank. Waste oil tank has been relocated. (See Appendix Q) No further action required.	Complete	CoT/Naccarato	DxD
237A	T&H Auto Repair: Based on low performance housekeeping & BMPs - add to schedule for routine inspections.	12/99 (inspection)	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	Tacoma Recycling: 2/97 CB samples: 21,000 ug/kg BEP, 22,000 ug/kg 4-methylphenol, 5,000 ug/kg BBP. Follow up to confirm that twice-yearly cb cleaning actually occurs.	12/99 (followup)	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	Tacoma News Trib: 2/97: CBs near fuel island plumbed to SD, washpad to SS. 4/97 CBs cleaned. Determine if they need to replumb fuel island CBs to SS and sample CBs.	12/99 (replumb decision) 2/00: (work complete)	CoT/Naccarato	Qtrly Rept	CoT: addendum to DxD
237A	Tam Engineering/old location: Visit current occupant (used by construction company for equipment/truck staging area). Inspect & evaluate for possible source control	12/99 (reinspect)	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237A	Western Furnace: At 12/97 inspection cbs were full of solids - verify they were cleaned. In 6/98 Western Furnace closed. Re-opened in Summer '99 as Parker Paint retail outlet. Need to revisit to verify status of source control.	12/99 (revisit)	CoT/Naccarato	09/30 Rd. 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237B	Outfall sed trap samples: 1997 (7,400 ug/kg LPAH; 57,000 ug/kg HPAH; 24,000 ug/kg BEP) and 1998 (5,800 ug/kg LPAH; 35,000 ug/kg HPAH; 27,000 ug/kg BEP). Only 1 possible BEP source identified in drain report. Other possible sources for source tracing efforts include fire washing car lots (Armour All), detailing operations, machine shops (cutting fluids with filings discharged to dumpsters to drains). Sed trap installed at outfall 0/99. Evaluate for possible source tracing in 2000.	July '99 (inspections & id) Sept '99 (traps in) 1/99 (data back) 2/00 (results to plan from)	CoT/Naccarato	Qtrly Rept	CoT: addendum to DxD (sed trap status)

"sw" - stormwater
"cb" - catch basins
"p.r.n." - as required

"uls" - upstreem
"l/a" - downstream

02/15/2000 2:08 AM
lflint now to the flint@tacoma.wa

Iacona Stormwater Worksheet (Hill & Naccarato rev. 2/2000)

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Drain	What	When	Who/Whom	Report Out	"Deliverable"
237B	PAIs: WSDOT HOV plans are out for review. Is source control adequate? Additional treatment required? Retrofit possibilities for existing traffic if current system not treating spills, etc.	??	CoT/Source Control & Transmission (review) CoT/Tramastida, Haccaralo, Herley WDOE/Mercuri, Hlegy		CoT, EPA, WDOE letters?
237B	4-methyl phenol: showed at elevated concentrations in 1998 sed traps (9,000 ug/kg). need to watch future results for potential problems that need source control. Sed trap installed at outfall. Evaluate data for possible source tracing in '00.	Sept '99 (traps in) (data back) 2000 (results to plan from)	CoT/Haccaralo	Qtrly Rept	CoT: addendum to DxD (sed trap status)
237B	Bunce: BEP in wash sump (29,000 ug/kg) and 10,000 ug/kg in Pacific Ave street gutter. Currently washing with water only. Need to verify sw sump was cleaned. PAIs also high. Wash sump (15,000 ug/kg LPAH; 90,000 ug/kg HPAH); Pacific Ave gutter (1,300 ug/kg LPAH; 4,500 ug/kg HPAH). Street curb dips and accumulated materials may not be caught by sweeper--change maintenance to vacuum instead of mechanical sweep. Resample after maintenance complete. Have submitted plans for pretreatment, but were rejected for need of an engineered system, so voluntary project was dropped. Need to revisit & investigate for additional control of PAIs from washing to sw.	12/99 (revisit & investigate) ?? (additional controls p.n.)	CoT/Haccaralo	09/00 Rd 3 (final) & Qtrly Rept	CoT: addendum to DxD (update status)
237B	Bucky's Muller: - controlled & verified as noted in Appendix Q (DxD report). No further action.	Complete	CoT/Haccaralo	DxD	
237B	Shapes of Plastic: CB conn. to sanitary, need to revisit issue. Need to update DxD (sample data).	?? (revisit cb conn to sanitary)	CoT/Haccaralo	09/00 Rd 3 (final) & Qtrly Rept	CoT: addendum to DxD
237B	Evaluate residential area contributions to sw - part of sw baseline/ambient study. Does it contribute significantly or not?				CoT: DxD addendum
all	BEP sources? - Sewer Operations (Pretreatment) is aggressively addressing chemically-treated cooling tower discharges to storm sewer. Bus. required to re-route to sanitary. No data available on COC impact to Foss. Any known discharges from such systems are targeted (cleaning, blowdown, condensate, contact & non-contact cooling, etc.). All deduct meter accounts are evaluated/inspected; mainly includes most of the larger systems. No sample data available. Sewer Operations is lead on activity. Before and after comparisons of metered water may supply rough figures on volume reduced.	6/99 (50% conversion) (convert balance of discharges to pretreatment)	CoT/Haccaralo in coordination with Sewer	09/00 Rd 3 (final)	CoT: memo or addendum to DxD
all	NPDES: WDOE is checking list of all permitted up-line sources (with NPDES permits) for monitoring of COCs & limits. WDOE provide monitoring data to CoT for possible sources.	????	CoT & WDOE	Qtrly Rept	WDOE memo
all	BEP sampling - discussed in context of finding it everywhere because 1st iteration of stormwater process focusses on source identification. Now need to develop references, the city-wide map may provide better context. In addition to controls used in Round 1 & 2 sed trap studies, need to establish reasonable control sites at sites not sampled before - eg. residential streets, generally maintained parking lots (K-Mart), other. Existing data mapped--modifications requested.	6/23/99 (reference sites) ?? (field work) (data & results)	CoT/Haccaralo	Qtrly Rept	CoT: addendum to DxD
all	Private maintenance ordinance - current database developed to track BMPs may be used to track private works & relate to CoT source control actions -- viz. source control effectiveness, monitoring, etc. Already required to keep records of maintenance, need to stick with schedules for maintenance.	March '00 (per Council schedule)	CoT/CBrown	6/23: compile lists for authors	CoT: explainer DE & EPA
all	Private maintenance ordinance - performance standards for implementation (e.g., when to clean [depth], how to clean, how to dispose of waste) - These are in the SWAMP. Once SWAMP is approved, then ordinance goes into place. Next step is enforcement. Will need to develop enforcement response plan for legal consistency.	March '00 (per Council schedule)	CoT/Haccaralo, CBrown	5/11: draft lists 6/23: compile lists for authors	CoT: list of recommendations to authors of ordinance.
all	Next round of sediment traps: EPA & Ecology need to see plans for deployment & analyses. Establish when data and report(s) are expected. 237B candidate for upstream tracing.	Sept '99 (traps in) (data back) 2000 (results to plan from)	CoT/Haccaralo	8/4 ck progress	CoT: Sed Trap Rpt
all	BEP Study - address as inherent stormwater contaminant. Existing data city-wide will be mapped	?? (data) ?? (traps) (conclusions)	CoT/Haccaralo Crown	?	????
all	Private maintenance ordinance - need outreach viz importance to sw source control efforts. SWAMP program implementation	March '00 (per Council schedule)	CoT/City Council CoT/CBrown		

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"p.n." - as required

"ubs" - upstream
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